Dell Latitude 3150
Owner's Manual

Regulatory Model: P21T
Regulatory Type: P21T001

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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1

Working on Your Computer

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

WARNING: Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning off Your Computer).

3. If the computer is connected to a docking device (docked), undock it.

   CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

   NOTE: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the base cover.
8. Remove the main battery.
9. Turn the computer top-side up.
10. Open the display.
11. Press and hold the power button for few seconds, to ground the system board.

    CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

    CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

12. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:
   - In Windows 8.1:
     - Using a touch-enabled device:
       a. Swipe in from the right edge of the screen, opening the Charms menu and select **Settings**.
       b. Select the ⏻ and then select **Shut down**.

       Or

       * On the Home screen, touch the ⏻ and then select **Shut down**.
     - Using a mouse:
       a. Point to upper-right corner of the screen and click **Settings**.
       b. Click the ⏻ and select **Shut down**.

       Or

* On the Home screen, click and then select **Shut down**.

- In Windows 7:

  1. Click **Start** .
  2. Click **Shut Down.**

  or

  1. Click **Start** .
  2. Click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down** .

2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 6 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.

   CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.
3. Replace the battery.
4. Replace the base cover.
5. Connect your computer and all attached devices to their electrical outlets.
6. Turn on your computer.

2

Removing and Installing Components

This section provides detailed information on how to remove or install the components from your computer.

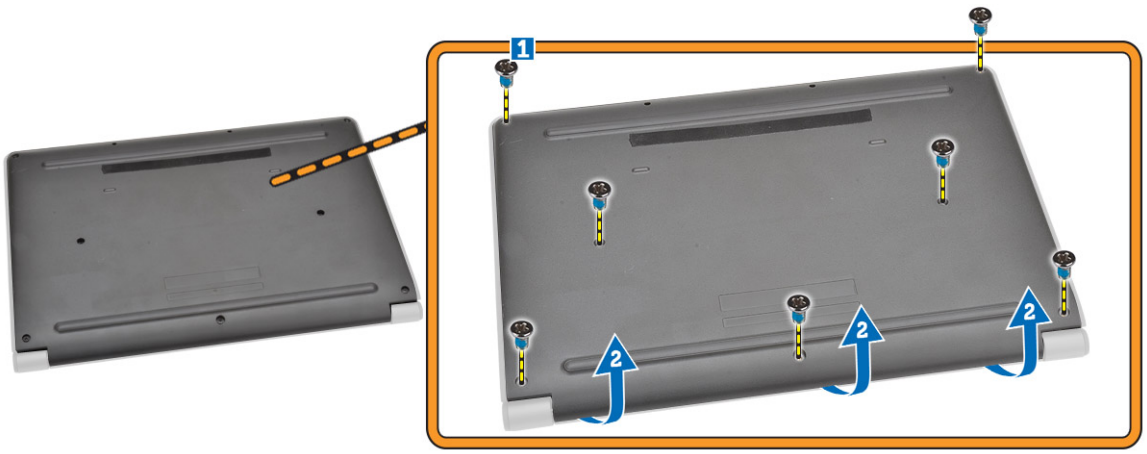
Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe

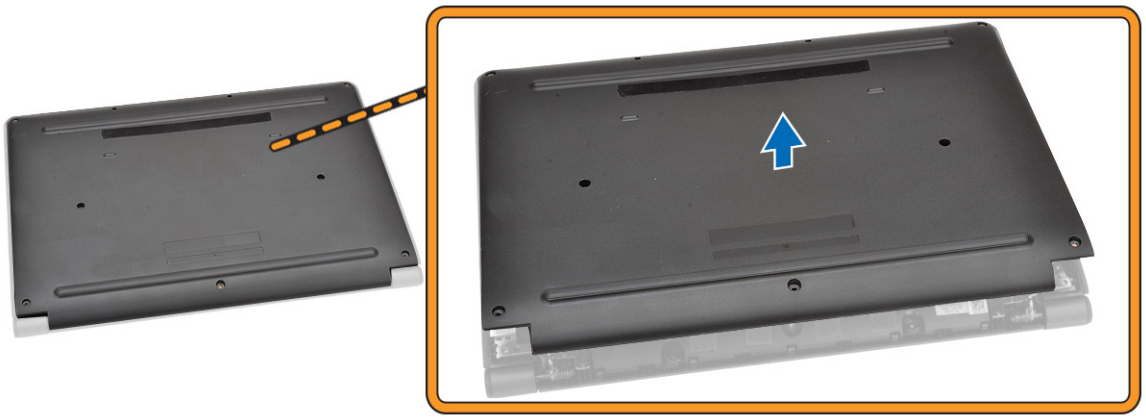
Removing the Base Cover

1. Follow the procedures in Before Working Inside Your Computer.
2. Perform the following steps to remove the base cover from the computer:
   a. Remove the screws that secure the base cover to the computer.
   b. Pry the base cover to release it from the computer.



NOTE: You may need a sharp tool to pry the base cover around the edges.

3. Remove the base cover from the computer.

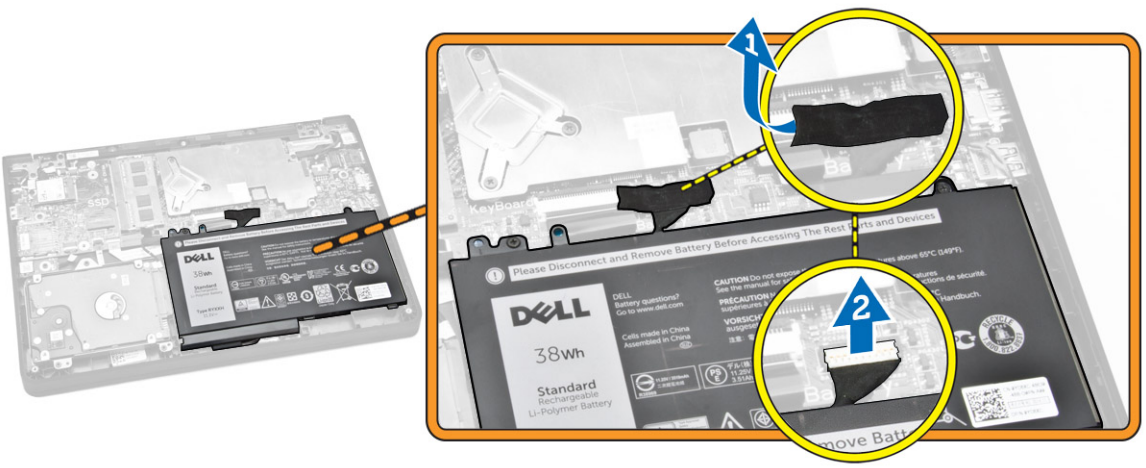


Installing the Base Cover

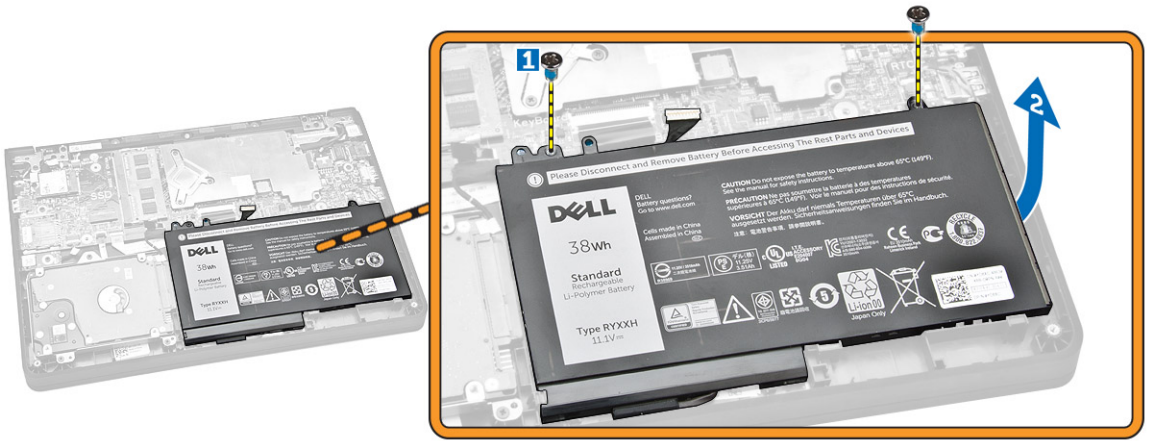
1. Place the base cover to align with the screw holders on the computer.
2. Tighten the screws to secure the base cover to the computer.
3. Follow the procedures in After Working Inside Your Computer.

Removing the Battery

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the base cover.
3. To release the battery from the computer:
   a. Peel the adhesive tape that secures the battery cable [1].
   b. Disconnect the battery cable from its connector on the system board [2].



4. Perform the following steps:
   a. Remove the screws that secure the battery to the computer [1].
   b. Remove the battery from the computer [2].

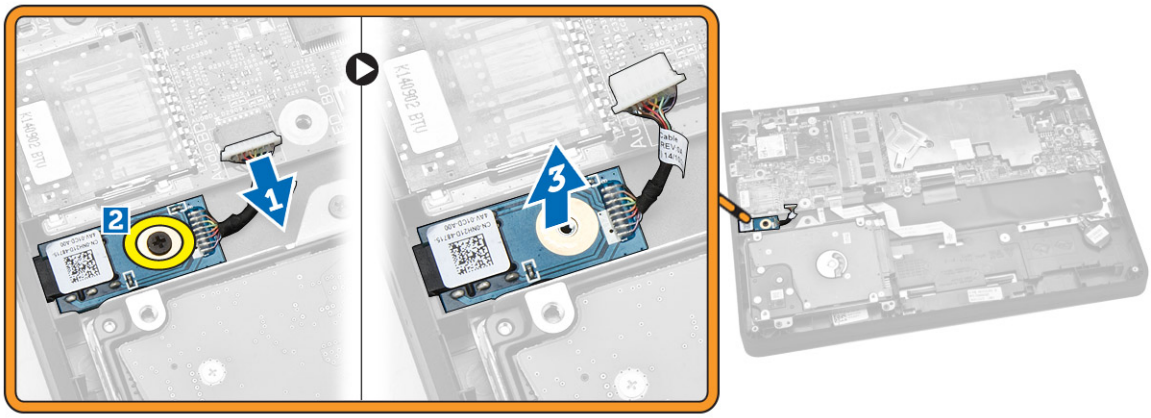


Installing the Battery

1. Insert the battery into its place on the computer.
2. Connect the battery cable to its connector on the system board.
3. Fix the adhesive tape to secure the battery cable.
4. Tighten the screws to secure the battery to the computer.
5. Install the base cover.
6. Follow the procedures in After Working Inside Your Computer.

Removing the Audio Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. Perform the following steps:
   a. Disconnect the audio-board cable from its connector on the system board [1].
   b. Remove the screw that secures the audio board to the computer [2].
   c. Remove the audio board from the computer [3].

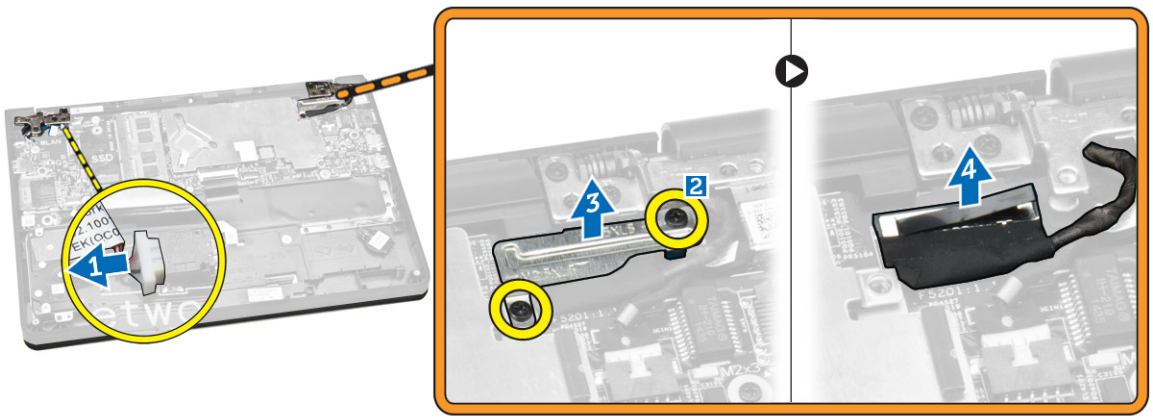


Installing the Audio Board

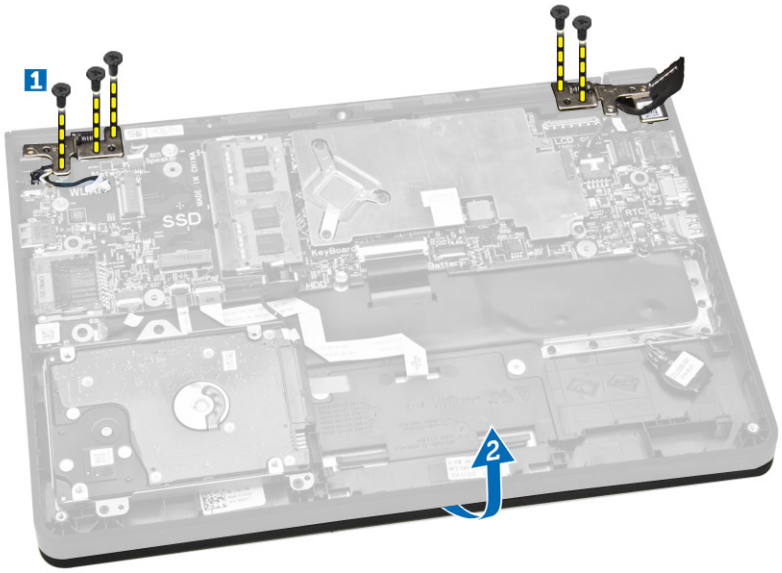
1. Insert the audio board into its place on the computer.
2. Tighten the screw to secure the audio board to the computer.
3. Connect the audio-board cable to its connector on the system board.
4. Install the:
   a. battery
   b. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the Display Assembly

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. To release the display assembly from the computer:
   a. Disconnect the network cable from its connector on the system board [1].
   b. Remove the screws that secure the metal bracket to the system board [2].
   c. Remove the metal bracket to access the display cable [3].
   d. Disconnect the display cable from its connector on the system board [4].



4. Remove the screws that secure the display hinges to the computer [1] and open the display [2].



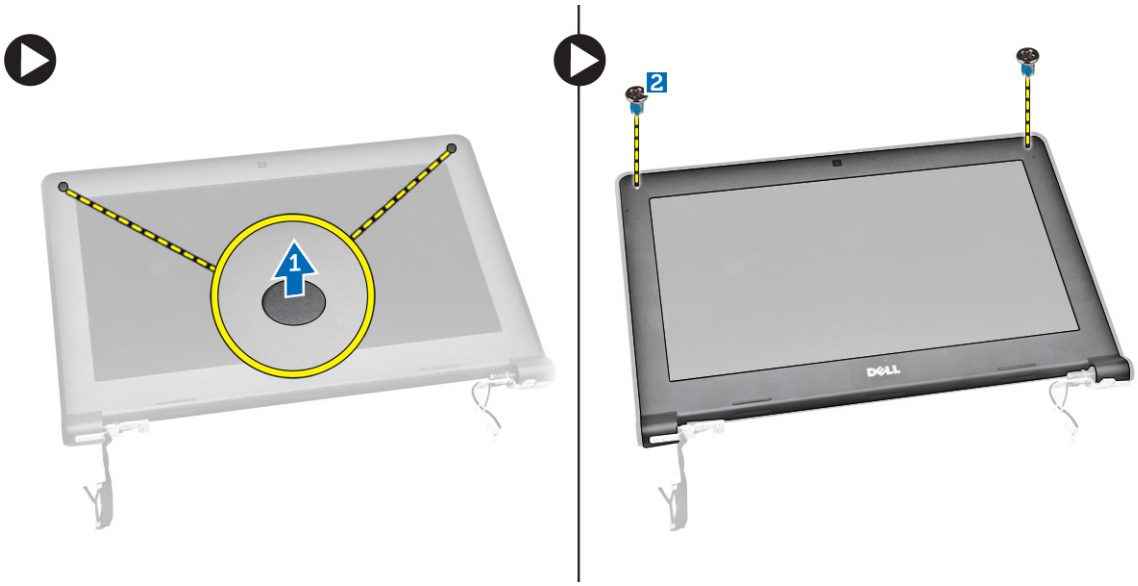
5. Pull the keyboard base assembly away from the display assembly to separate them.

Installing the Display Assembly

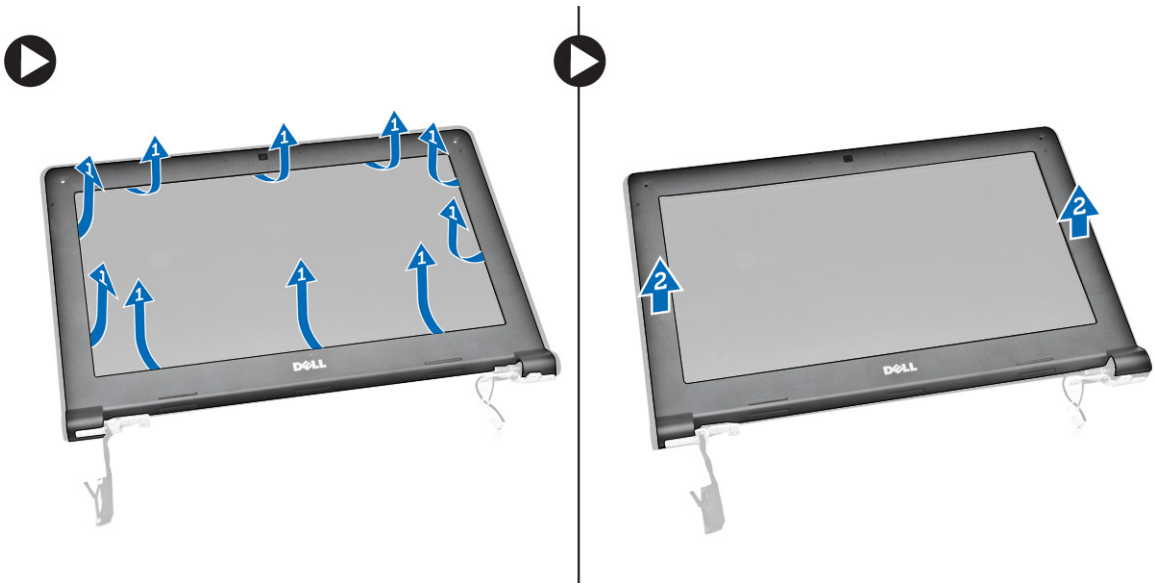
1. Place the display assembly on the computer chassis.
2. Adjust the display hinges to align with the screw holders on the computer chassis.
3. Tighten the screws to secure the display assembly to the computer.
4. Connect the display cable to its connector on the system board.
5. Place the metal bracket to secure the display cable and tighten the screws to secure the metal bracket.
6. Connect the network cable to its connector on the system board.
7. Install the:
   a. battery
   b. base cover
8. Follow the procedures in After Working Inside Your Computer.

Removing the Display Bezel

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. display assembly
3. Perform the following steps:
   a. Peel the plastic adhesive to access the display-bezel screws [1].
   b. Remove the screws that secure the display bezel to the display assembly [2].



4. Pry the edges to release the display bezel [1] and remove the display bezel from the display assembly [2].



Installing the Display Bezel

1. Place the display bezel on the display assembly.
2. Starting from the top corner, press on the display bezel and work around the entire bezel until it snaps on to the display assembly.
3. Tighten the screws to secure the display bezel to the display assembly.
4. Fix the plastic adhesive to secure the display-bezel screws.
5. Install the:
   a. display assembly

b. battery
c. base cover

6. Follow the procedures in After Working Inside Your Computer.

Removing the Display Panel

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. display assembly
   d. display bezel
3. To release the display panel from the display assembly:
   a. Remove the screws that secure the display panel to the display assembly [1].
   b. Lift and flip the display panel to access the eDP cable [2].

4. Peel the adhesive [1] to access the eDP cable [2].

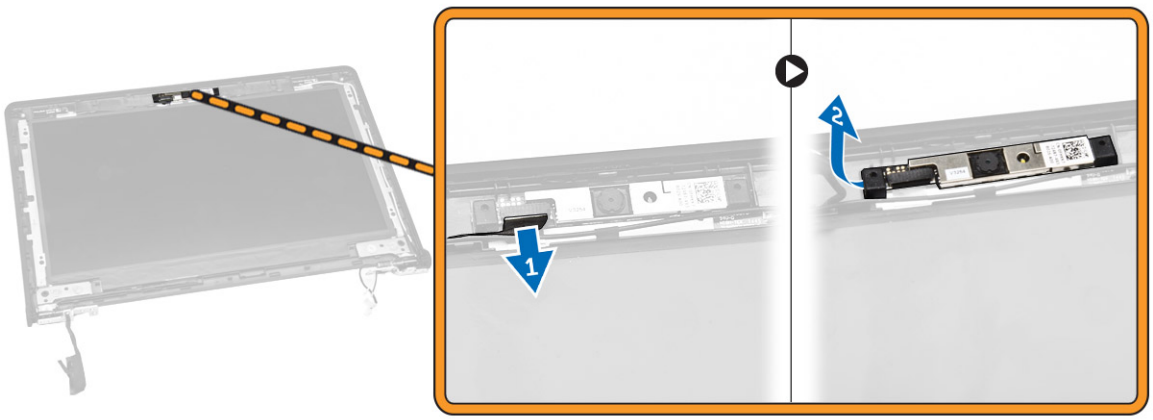
5. Disconnect the eDP cable from its connector [1] and remove the display panel from the display assembly [2].

Installing the Display Panel

1. Connect the eDP cable to its connector and fix the adhesive tape.
2. Place the display panel to align with the screw holders on the display assembly.
3. Tighten the screws to secure the display panel to the display assembly.
4. Install the:
   a. display bezel
   b. display assembly
   c. battery
   d. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the Camera

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. display assembly
   d. display bezel
3. To remove the camera from the display assembly:
   a. Disconnect the camera cable from its connector on the display assembly [1].
   b. Pry the camera to remove it from the display assembly [2].

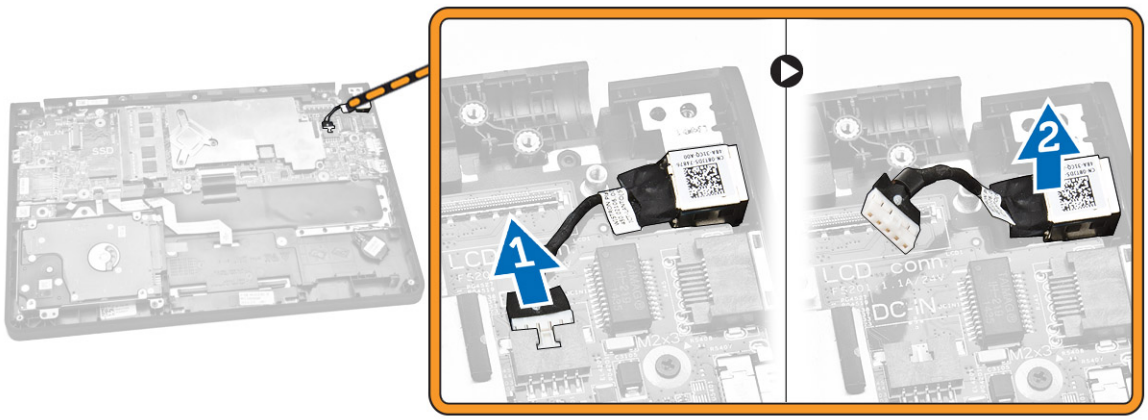


Installing the Camera

1. Insert the camera into its place on the display assembly.
2. Connect the camera cable to its connector on the display assembly.
3. Install the:
   a. display bezel
   b. display assembly
   c. battery
   d. base cover
4. Follow the procedures in After Working Inside Your Computer.

Removing the Power-Connector Port

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. display assembly
3. Perform the following steps:
   a. Disconnect the power-connector port cable from its connector on the system board [1].
   b. Remove the power-connector port from the computer [2].

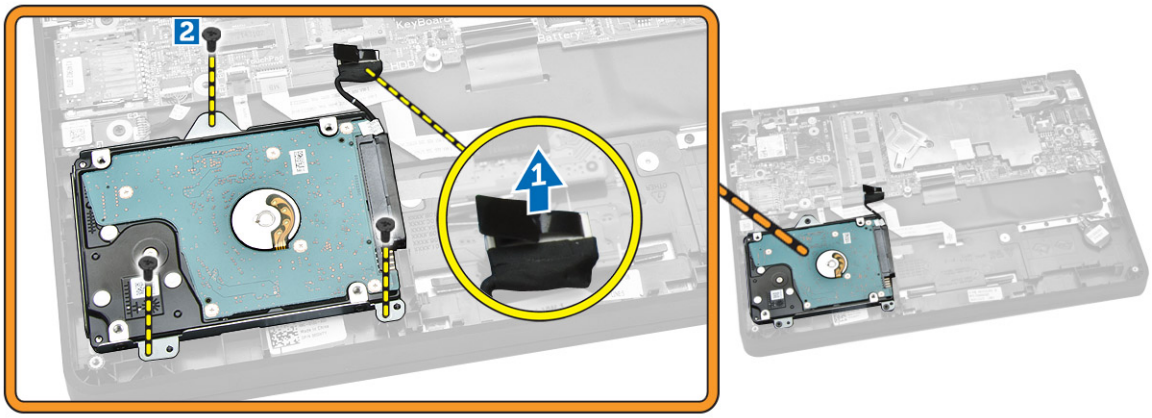


Installing the Power-Connector Port

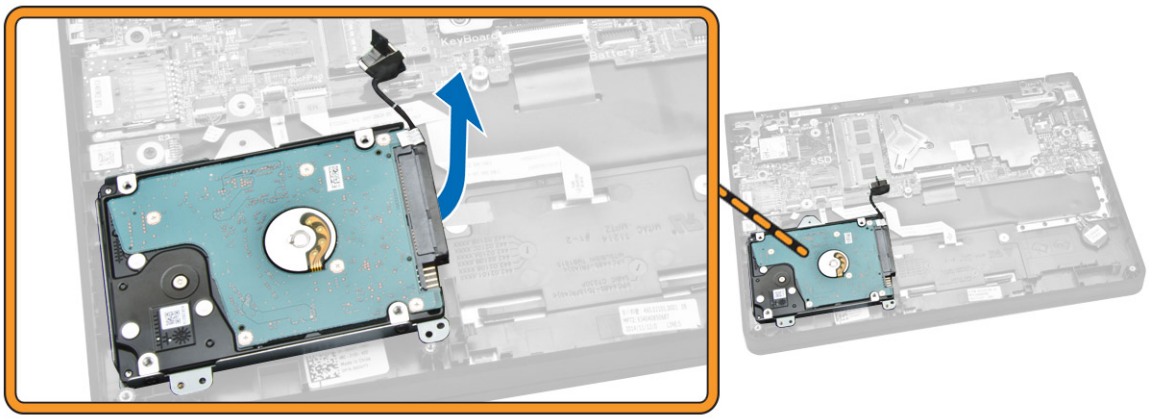
1. Insert the power-connector port into its place on the computer.
2. Connect the power-connector port cable to its connector on the system board.
3. Install the:
   a. display assembly
   b. battery
   c. base cover
4. Follow the procedures in After Working Inside Your Computer.

Removing the Hard-Drive Assembly

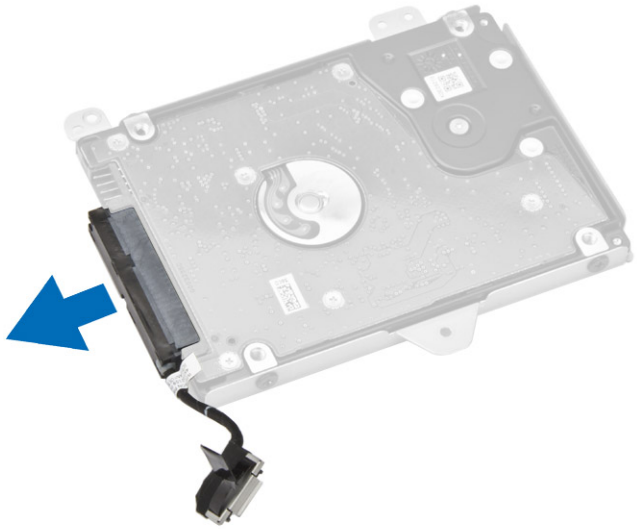
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. Perform the following steps:
   a. Disconnect the hard-drive cable from its connector on the system board [1].
   b. Remove the screws that secure the hard-drive assembly to the computer [2].



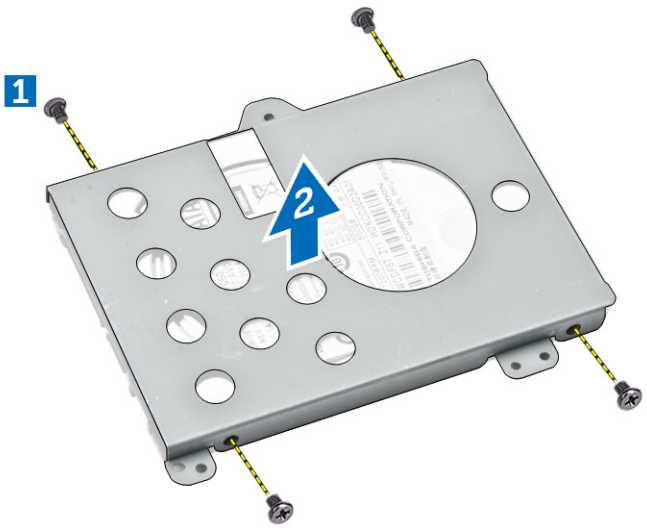
4. Remove the hard-drive assembly from the computer.



5. Pull to release the hard-drive cable from its connector on the hard-drive assembly.



6. Remove the screws that secure the hard-drive bracket to the hard drive [1] and remove the hard drive from the hard-drive bracket [2].



Installing the Hard-Drive Assembly

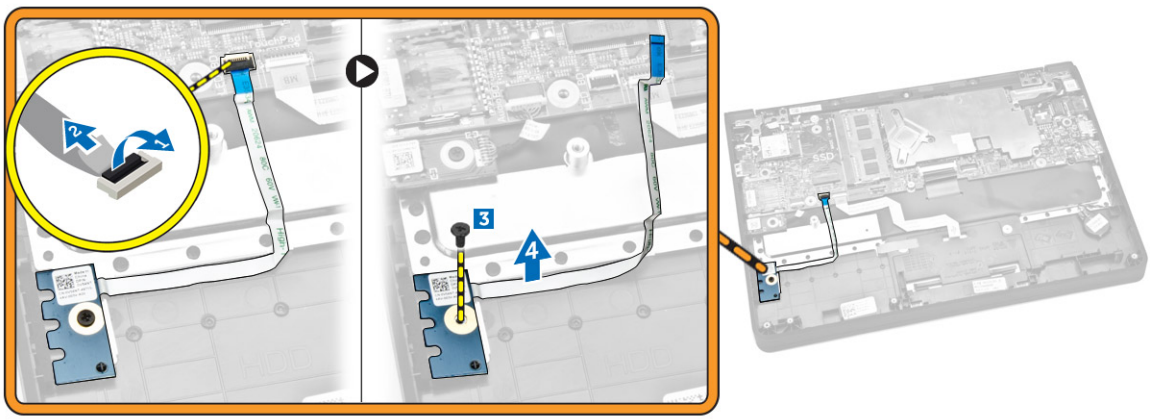
1. Place the hard drive within the hard-drive assembly, align the screw holders, and tighten the screws to secure the hard-drive bracket.
2. Connect the hard-drive cable to its connector on the hard drive.
3. Place the hard-drive assembly into its slot on the computer.
4. Connect the hard-drive cable to its connector on the system board.
5. Tighten the screws to secure the hard-drive assembly to the computer.
6. Install the:

a. battery
b. base cover

7. Follow the procedures in After Working Inside Your Computer.

Removing the LED Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. hard-drive assembly
3. Perform the following steps:
   a. Disconnect the LED board cable from its connector on the system board [1] [2].
   b. Remove the screw that secures the LED board to the computer [3].
   c. Remove the LED board from the computer [4].



Installing the LED Board

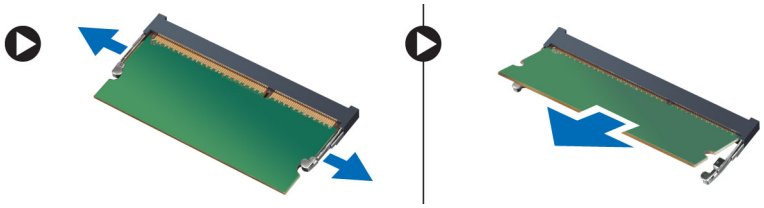
1. Insert the LED board into its place on the computer.
2. Tighten the screw to secure the LED board to the computer.
3. Connect the LED board cable to its connector on the system board.
4. Install the:
   a. hard-drive assembly
   b. battery
   c. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the Memory

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover

b. battery

3. Pry the clips securing the memory module until the memory pops-up and remove the memory from the system board.

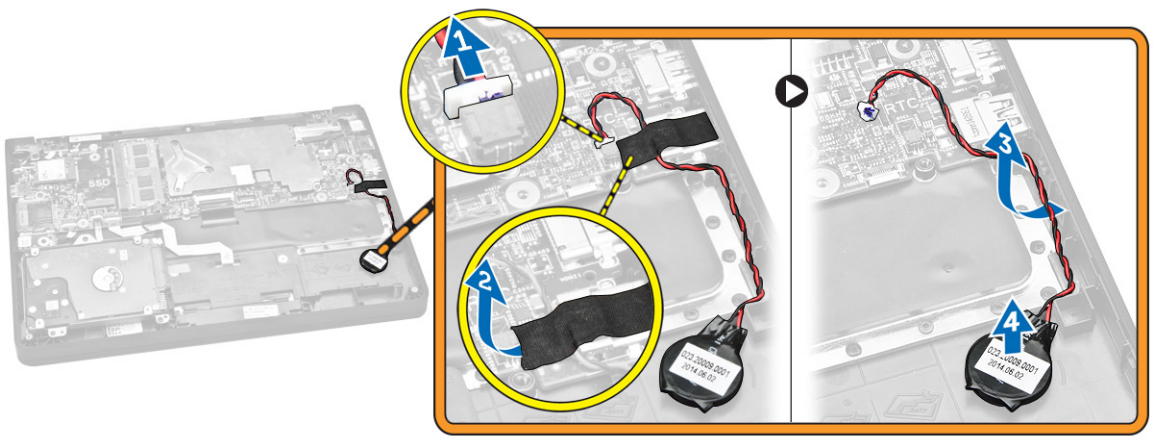


Installing the Memory

1. Insert the memory on the memory socket until the clips secure the memory.
2. Install the:
   a. battery
   b. base cover
3. Follow the procedures in After Working Inside Your Computer.

Removing the Coin-Cell Battery

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. Perform the following steps:
   a. Disconnect the coin-cell battery cable from its connector on the system board [1].
   b. Peel the adhesive tape to release the coin-cell battery cable [2].
   c. Release the coin-cell battery cable from its routing channels [3].
   d. Pry the coin-cell battery to remove it from the computer [4].

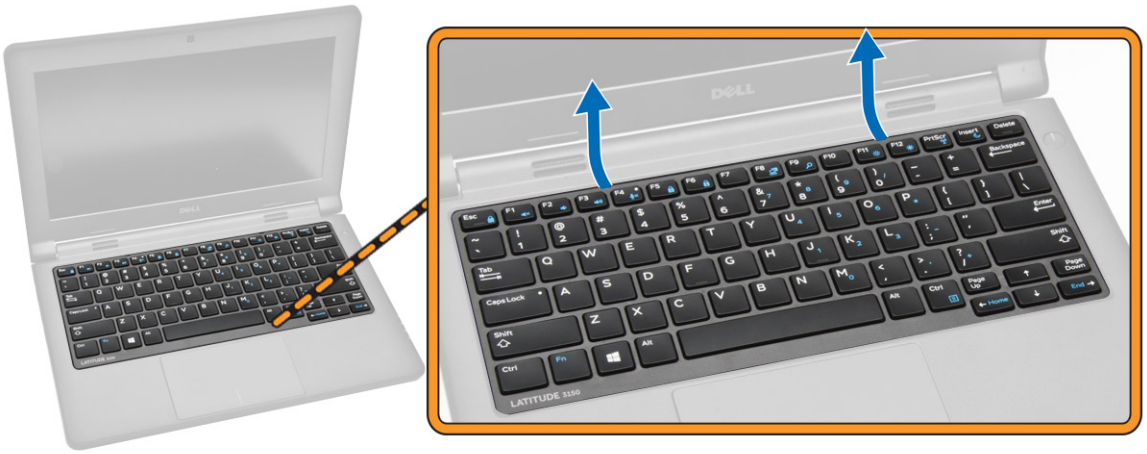


Installing the Coin-Cell Battery

1. Insert the coin-cell battery in its place on the computer.
2. Route the coin-cell battery cable along its routing channels.
3. Fix the adhesive tape to secure the coin-cell battery cable.
4. Connect the coin-cell battery cable to its connector on the system board.
5. Install the:
   a. battery
   b. base cover
6. Follow the procedures in After Working Inside Your Computer.

Removing the Keyboard Trim

1. Follow the steps in Before Working Inside Your Computer.
2. Pry the keyboard trim from its edges.



NOTE: You may need a sharp tool to pry the keyboard trim from its edges.

3. Remove the keyboard trim from the keyboard.

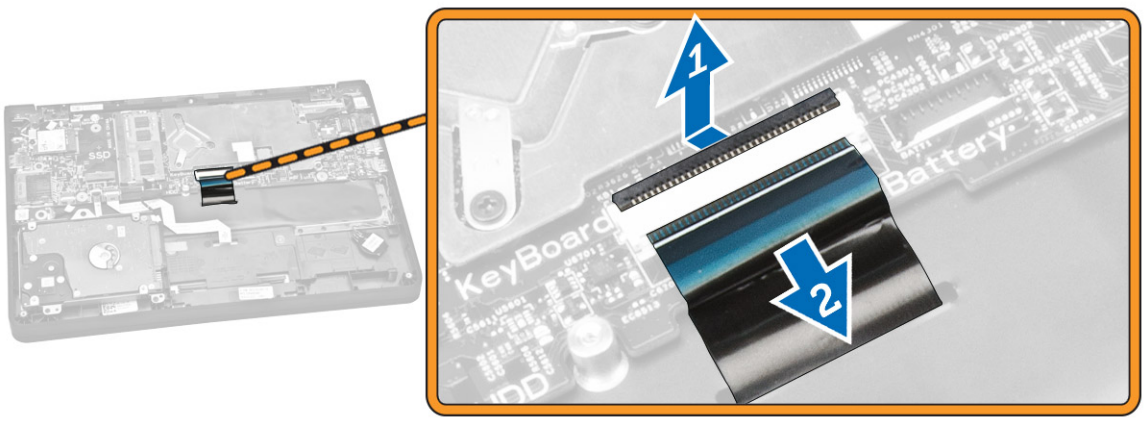
Installing the Keyboard Trim

1. Insert the keyboard trim to the keyboard until it snaps in its place.
2. Follow the procedures in After Working Inside Your Computer.

Removing the Keyboard

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. battery
   b. base cover
   c. keyboard trim

   NOTE: After removing the keyboard trim, flip the computer to access the keyboard cable.
3. Disconnect the keyboard cable from its connector on the system board [1] [2].



4. Flip the computer and remove the screws that secure the keyboard to the computer.

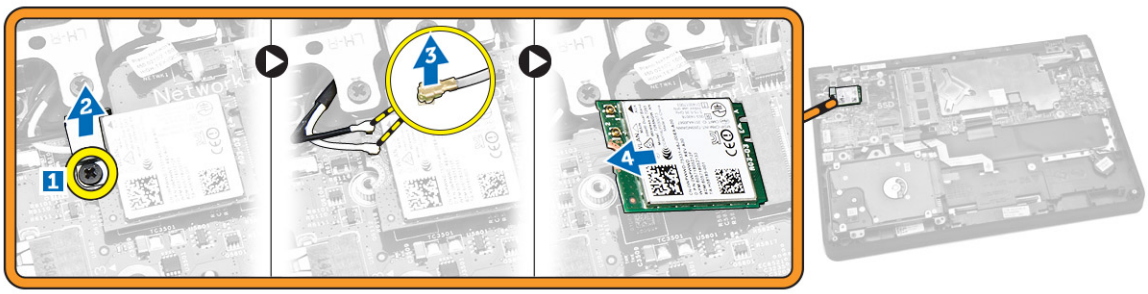
5. Perform the following steps:
   a. Pry the keyboard to release it from the computer [1].
   b. Remove the keyboard from the computer [2].

Installing the Keyboard

1. Place the keyboard to align with the screw holders on the computer.
2. Flip the computer and connect the keyboard cable to its connector on the system board.
3. Tighten the screws to secure the keyboard to the computer.
4. Install the:
   a. keyboard trim
   b. battery
   c. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the WLAN Card

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. Perform the following steps:
   a. Remove the screw that secures the metal bracket to the WLAN card [1].
   b. Remove the metal bracket to access the WLAN cables [2].
   c. Disconnect the WLAN cables from their connectors on the WLAN card [3].
   d. Remove the WLAN card from its connector on the system board [4].

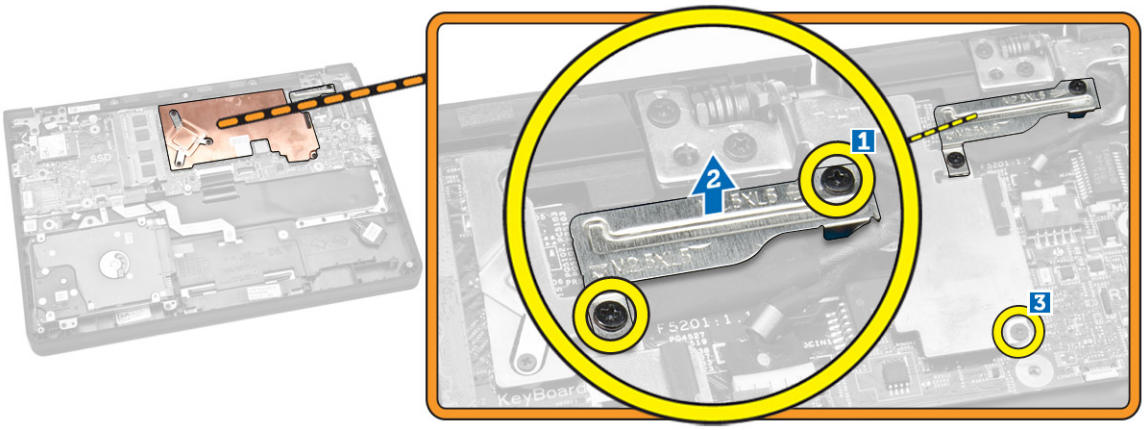


Installing the WLAN Card

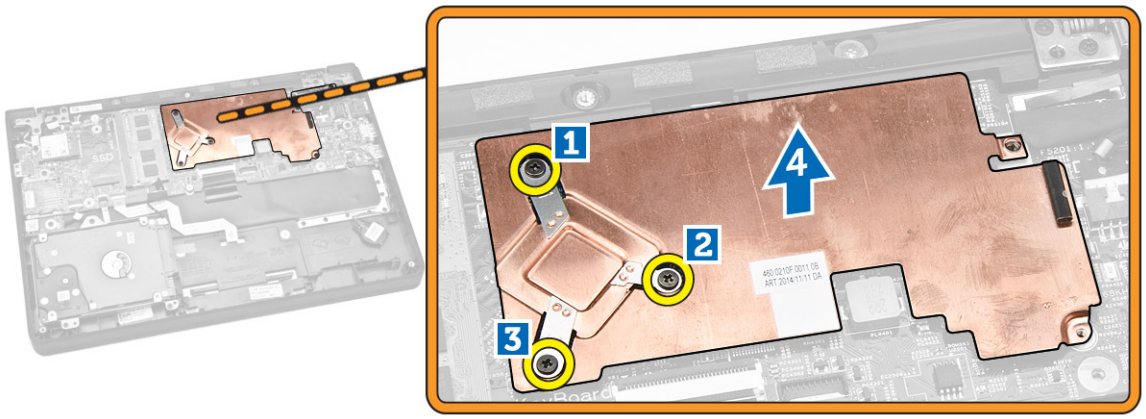
1. Insert the WLAN card to its connector on the system board.
2. Connect the WLAN cables to their connectors on the WLAN card.
3. Insert the metal bracket to secure the WLAN cables.
4. Tighten the screw to secure the WLAN card to the system board.
5. Install the:
   a. battery
   b. base cover
6. Follow the procedures in After Working Inside Your Computer.

Removing the Heatsink

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
3. To release the heatsink from the system board:
   a. Remove the screws that secure the heatsink from the metal bracket [1].
   b. Remove the metal bracket from the system board [2].
   c. Remove the screw that secures the heatsink to the system board [3].



4. Perform the following steps:
   a. Remove the screws that secure the heatsink to the system board [1] [2] [3].
   b. Remove the heatsink from the system board [4].

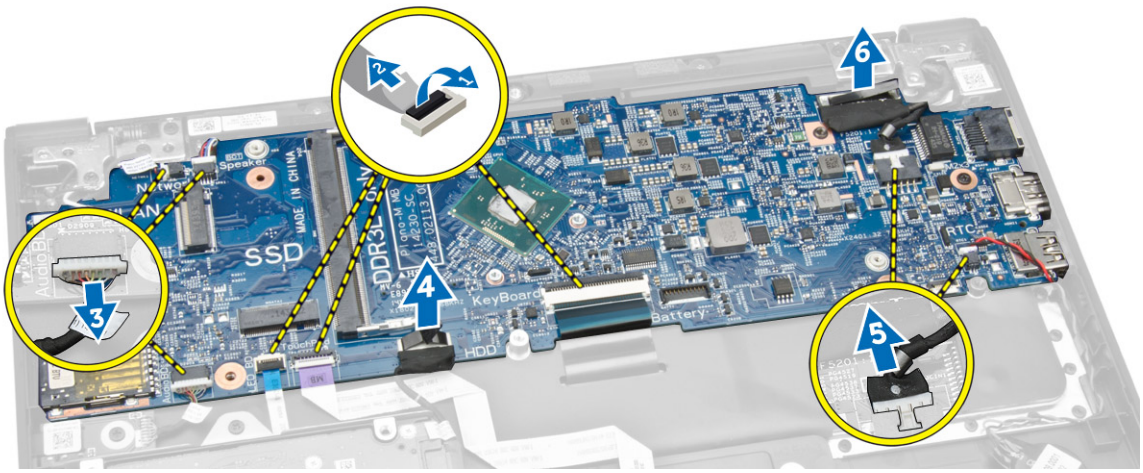


Installing the Heatsink

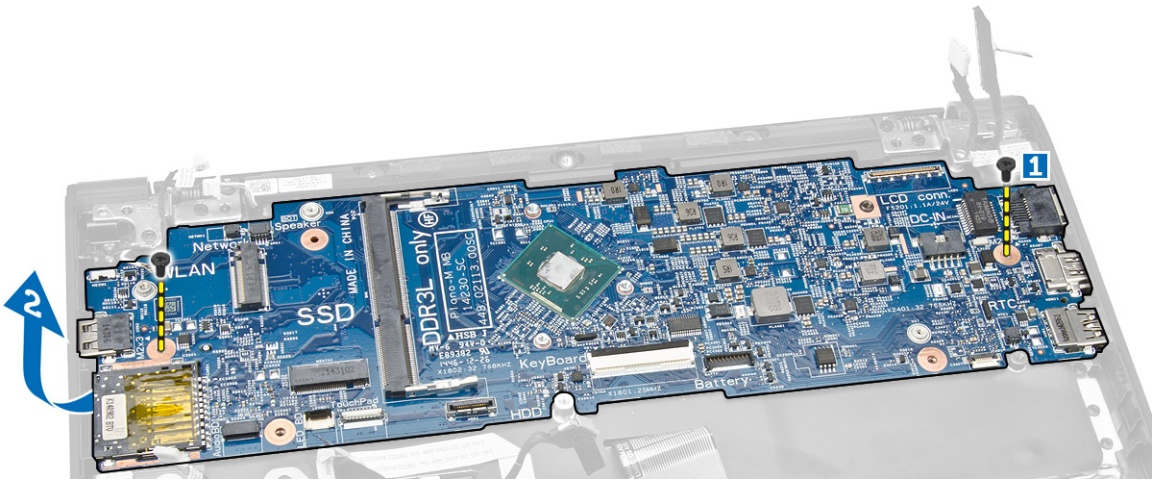
1. Insert the heatsink into its place on the system board.
2. Place the metal bracket and tighten the screws to secure the metal bracket to the system board.
3. Tighten the screws to secure the heatsink to the system board.
4. Install the:
   a. battery
   b. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the System Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. memory
   d. heatsink
3. Disconnect the following cables from the system board [1] [2]:
   a. keyboard
   b. touchpad
   c. LED board
   d. network and speaker [3]
   e. hard-drive assembly [4]
   f. coin-cell battery and power-connector port [5]
   g. display [6]



4. Perform the following steps to remove the system board from the computer:
   a. Remove the screws that secure the system board to the computer [1].
   b. Remove the system board from the computer [2].

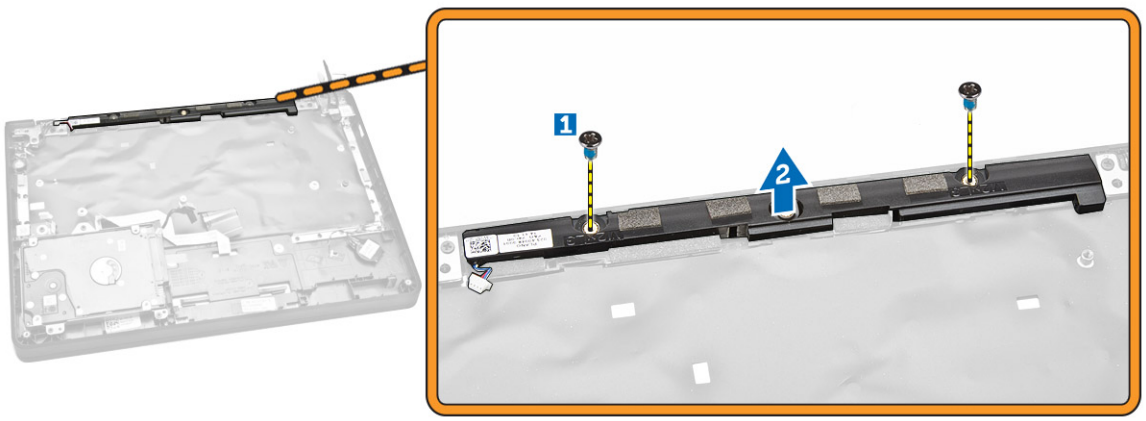


Installing the System Board

1. Insert the system board into its place on the computer.
2. Tighten the screws to secure the system board to the computer.
3. Connect the following cables to their connectors on the system board:
   a. display
   b. coin-cell battery and power-connector port
   c. hard-drive assembly
   d. network and speaker
   e. LED board
   f. touchpad
   g. keyboard
4. Install the:
   a. heatsink
   b. memory
   c. battery
   d. base cover
5. Follow the procedures in After Working Inside Your Computer.

Removing the Speaker

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. base cover
   b. battery
   c. memory
   d. heatsink
   e. system board
3. Perform the following steps:
   a. Remove the screws that secure the speaker to the computer [1].
   b. Remove the speaker from the computer [2].



Installing the Speaker

1. Insert the speaker into its place on the computer.
2. Tighten the screws to secure the speaker to the computer.
3. Install the:
   a. system board
   b. heatsink
   c. memory
   d. battery
   e. base cover
4. Follow the procedures in After Working Inside Your Computer.

3

System Setup

System Setup enables you to manage your computer hardware and specify BIOS-level options. From the System Setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Boot Sequence

Boot Sequence allows you to bypass the System Setup-defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing <F2> key
- Bring up the one-time boot menu by pressing <F12> key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot-menu options are:

- Removable Drive (if available)
- STXXXX Drive

  NOTE: XXX denotes the SATA drive number.
- Optical Drive
- Diagnostics

  NOTE: Choosing Diagnostics, will display the **ePSA diagnostics** screen.

The boot sequence screen also displays the option to access the System Setup screen.

Navigation Keys

The following table displays the system setup navigation keys.

NOTE: For most of the system setup options, changes that you make are recorded but do not take effect until you re-start the system.

Table 1. Navigation Keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
<Enter>	Allows you to select a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
<Tab>	Moves to the next focus area. NOTE: For the standard graphics browser only.
<Esc>	Moves to the previous page till you view the main screen. Pressing <Esc> in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.
<F1>	Displays the System Setup help file.

System Setup Options

NOTE: Depending on your computer and its installed devices, the items listed in this section may or may not appear.

Table 2. General

Option	Description
System Information	This section lists the primary hardware features of your computer. • System Information • Memory Information • Processor Information • Device Information
Battery Information	Displays the charge status of the battery.
Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. All the options are selected. • Diskette Drive • Internal HDD • USB Storage Device • CD/DVD/CD-RW Drive • Onboard NIC You can also choose the Boot List option. The options are: • Legacy • UEFI

Option	Description
Advanced Boot Options	Allows you to enable the Legacy Option ROMs during the UEFI boot mode. This option is enabled by default.
Date/Time	Allows you to set the date and time.

Table 3. System Configuration

Option	Description
Integrated NIC	Allows you to configure the integrated network controller. The options are: • Enabled UEFI Network Stack • Disabled • Enabled • **Enabled w/PXE** (Default Setting) **NOTE:** This option is disabled by default. If you enable this option, the UEFI Networking Protocols that are available are installed, allowing the pre-OS and the OS networking features to use the enabled NICs. You may have to disable the **Enabled w/PXE** to use this option.
SATA Operation	Allows you to configure the internal SATA hard-drive controller. The options are: • Disabled • **AHCI** (Default Setting) **NOTE:** SATA is configured to support AHCI mode.
Drives	Allows you to configure the SATA drives on board. The option is: • SATA-0 • SATA-1 Default Setting: Both drives are enabled.
SMART Reporting	This field controls if the hard drive errors for the integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. • **Enable SMART Reporting** — This option is disabled by default.
USB Configuration	Allows you to define the USB configuration. The options are: • Enable Boot Support

Option	Description
	• Enable External USB Port • Enable USB 3.0 Controller Default Setting: All the options are enabled.
USB PowerShare	Allows you to configure the behavior of the USB PowerShare feature. The option is disabled by default. • Enable USB PowerShare
Audio	Allows you to enable or disable the integrated audio controller. • **Enable Audio** (Default Setting)
Miscellaneous Devices	Allows you to enable or disable the various on board devices. The options are: • Enable Microphone • Enable Hard Drive Free Fall Protection • Enable Camera • Enable Media Card • Disable Media Card Default Setting: All devices are enabled.

Table 4. Video

Option	Description
LCD Brightness	Allows you to set the panel brightness when the ambient sensor is Off.

Table 5. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. NOTE: You must set the admin password first if an admin password is used with a system password and/or hard-drive password NOTE: Successful password changes take effect immediately. NOTE: Deleting the admin password automatically deletes the system password and the hard-drive password. NOTE: Successful password changes take effect immediately. Default Setting: **Not set**
System Password	Allows you to set, change or delete the system password. NOTE: Successful password changes take effect immediately.

Option	Description
	Default Setting: **Not set**
Internal HDD-0 Password	Allows you to set, change, or delete the administrator (admin) password. Default Setting: **Not set**
Strong Password	Allows you to enforce the option to always set strong passwords. Default Setting: **Enable Strong Password** is disabled.
Password Configuration	You can define the length of your password. Min = 4, Max = 32
Password Bypass	Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are: • **Disabled** (Default Setting) • Reboot bypass
Password Change	Allows you to enable the disable permission to the system and hard-drive passwords when the admin password is set. Default Setting: **Allow Non-Admin Password Changes** is selected.
Non-Admin Setup Changes	Allows you to determine whether changes to setup option are permitted when an administrator password is set. The option is disabled. • Allows Wireless Switch Changes
TPM Security	Allows you to control whether the Trusted Platform Module (TPM) in the computer is enabled and visible to the operating system. When you disable this option, the BIOS will not turn on the TPM during POST, and the TPM will be non-functional and invisible to the operating system. When you enable this option, the BIOS will turn on the TPM during POST, and will be functional in the operating system. Default Setting: **TPM Security** is not selected.
Computrace	Allows you to activate or disable the optional Computrace software The options are: • **Deactivate** (Default Setting) • Disable • Activate NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed.
CPU XD Support	Allows you to enable the Execute Disable mode of the processor. Default Setting: **Enable CPU XD Support**
Admin Setup Lockout	Allows you to prevent users from entering Setup when an Administrator password is set. Default Setting: **Disabled**

Table 6. Secure Boot

Option	Description
Secure Boot Enable	Allows you to enable or disable the secure boot. The options are: • Disabled • **Enabled** (Default Setting)
Expert Key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK • KEK • db • dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**–Saves the key to a user-selected file • **Replace from File**– Replaces the current key with a key from a user-selected file • **Append from File**– Adds a key to the current database from a user-selected file • **Delete**– Deletes the selected key • **Reset All Keys**– Resets to default setting • **Delete All Keys**– Deletes all the keys NOTE: If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.

Table 7. Performance

Option	Description
C-States Control	Allows you to enable or disable the additional processor sleep states. Default Setting: **Enable C states**.

Table 8. Power Management

Option	Description
AC Behavior	Allows the computer to power on automatically, when AC adapter is plugged. The option is disabled.

Option	Description
	• Wake on AC
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are: • **Disabled** (Default Setting) • Every Day • Weekdays • Select Days
USB Wake Support	Allows you to enable the USB devices to wake the computer from standby mode. The option is disabled. • Enable USB Wake Support
Wireless Radio Control	Allows you to control the WLAN radio. • Control WLAN radio Default Setting: The option is disabled.
Wake on LAN/WLAN	This option allows the computer to power up from the off state when triggered by a special LAN signal. Wake-up from the Standby state is unaffected by this setting and must be enabled in the operating system. This feature only works when the computer is connected to AC power supply. • **Disabled** - (Default Setting) • LAN Only • WLAN Only • LAN or WLAN
Block Sleep	Allows you to block the computer from entering into the sleep state. Option is disabled by default. • Block Sleep (S3)
Peak Shift	Peak Shift minimizes AC power usage at times of peak demand. Option is disabled by default.
Advance Battery Charge Configuration	Advanced Battery Charge minimizes battery health while still supporting heavy use during the work day. Option is disabled by default.
Primary Battery Charge Configuration	Allows you to change the battery charge configuration. • **Adaptive** (Default setting) • Standard • ExpressCharge • Primarily AC Use • Custom NOTE: Battery settings may not be available for all battery types. To enable this option 'Advanced Battery Charge Mode' must be disabled.

Table 9. POST Behavior

Option	Description
Adapter Warnings	Allows you to activate the adapter warning messages when certain power adapters are used. The option is enabled by default. • Enable Adapter Warnings
Keypad (Embedded)	Allows you to choose one of two methods to enable the keypad that is embedded in the internal keyboard. • **Fn Key Only** (Default Setting) • By Numlock
Numlock Enable	Allows you to enable the Numlock when system boots. The option is enabled by default.
Fn Key Emulation	Allows you to match the <Scroll Lock> key feature of PS-2 keyboard with the <Fn> key feature in an internal keyboard. The option is enabled by default. • Enable Fn Key Emulation
Fn Lock Options	This option when enabled allows the hot key combination **<Fn> +<Esc>** toggle the primary behavior of <F1> – <F12> between their standard and secondary functions. • **Fn Lock Hot Key** (Default Setting) – **Standard** (Default Setting) – Secondary
Fastboot	Allows you to speed up the boot processes. The options are: • Minimal • **Thorough** - (Default Setting) • Auto
Extend BIOS POST Time	This option creates an extra pre-boot delay. This allows you to see the POST status messages. • **0 seconds** (Default Setting) • 5 seconds • 10 seconds

Table 10. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization technology. • **Enable Intel Virtualization Technology** (Default Setting)

Table 11. Wireless

Option	Description
Wireless Switch	Allows you to determine which wireless device can be controlled by the wireless switch. The options are: • Bluetooth • WLAN All options are enabled by default. NOTE: For Windows 8.1 Operating System, the **Wireless Switch** option is directly controlled by the OS driver. So, this setting here does not affect the **Wireless Switch Behavior**.
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. The options are: • Bluetooth • WLAN All options are enabled by default.
Lid-Mounted Wireless Activity LED	This field allows you to control the wireless activity LED mounted on the lid of the system. • Always Off • **Led Indicates Wireless Activity** (Default Setting)

Table 12. Maintenance

Option	Description
Service Tag	Displays the Service Tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.
BIOS Downgrade	Allows you to control the flashing of the system firmware to the previous revisions. This option is enabled by default • Allow BIOS Downgrade NOTE: If you disable this option, the flashing of the system firmware to a previous revision will be blocked.

Table 13. System Logs

Option	Description
BIOS Events	Displays the BIOS event log and allows you to clear the log. • Clear Log
Thermal Events	Displays the Thermal event log and allows you to clear the log. • Clear Log
Power Events	Displays the Power event log and allows you to clear the log. • Clear Log

Updating the BIOS

It is recommended to update your BIOS (system setup), on replacing the system board or if an update is available. For laptops, ensure that your computer battery is fully charged and connected to a power outlet

1. Re-start the computer.
2. Go to **dell.com/support**.
3. Enter the **Service Tag** or **Express Service Code** and click **Submit**.

   NOTE: To locate the Service Tag, click **Where is my Service Tag?**

   NOTE: If you cannot find your Service Tag, click **Detect My Product**. Proceed with the instructions on screen.
4. If you are unable to locate or find the Service Tag, click the Product Category of your computer.
5. Choose the **Product Type** from the list.
6. Select your computer model and the **Product Support** page of your computer appears.
7. Click **Get drivers** and click **View All Drivers**.

   The Drivers and Downloads page opens.
8. On the Drivers and Downloads screen, under the **Operating System** drop-down list, select **BIOS**.
9. Identify the latest BIOS file and click **Download File**.

   You can also analyze which drivers need an update. To do this for your product, click **Analyze System for Updates** and follow the instructions on the screen.
10. Select your preferred download method in the **Please select your download method below** window, click **Download File**.

    The **File Download** window appears.
11. Click **Save** to save the file on your computer.
12. Click **Run** to install the updated BIOS settings on your computer.

    Follow the instructions on the screen.

System and Setup Password

You can create a system password and a setup password to secure your computer.

Password Type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

CAUTION: The password features provide a basic level of security for the data on your computer.

CAUTION: Anyone can access the data stored on your computer if it is not locked and left unattended.

NOTE: Your computer is shipped with the system and setup password feature disabled.

Assigning a System Password and Setup Password

You can assign a new **System Password** and/or **Setup Password** or change an existing **System Password** and/or **Setup Password** only when **Password Status** is **Unlocked**. If the Password Status is **Locked**, you cannot change the System Password.

NOTE: If the password jumper is disabled, the existing System Password and Setup Password are deleted and you need not provide the system password to log on to the computer.

To enter a system setup, press <F2> immediately after a power-on or re-boot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>.
   The **System Security** screen appears.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password** , enter your system password, and press <Enter> or <Tab>.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - The password can contain the numbers 0 through 9.
   - Only lower case letters are valid, upper case letters are not allowed.
   - Only the following special characters are allowed: space, (”), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).

   Re-enter the system password when prompted.
4. Type the system password that you entered earlier and click **OK**.
5. Select **Setup Password**, type your system password and press <Enter> or <Tab>.
   A message prompts you to re-type the setup password.
6. Type the setup password that you entered earlier and click **OK**.
7. Press <Esc> and a message prompts you to save the changes.
8. Press <Y> to save the changes.
   The computer reboots.

Deleting or Changing an Existing System and/or Setup Password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.
To enter the System Setup, press <F2> immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>.
   The **System Security** screen is displayed.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password**, alter or delete the existing system password and press <Enter> or <Tab>.
4. Select **Setup Password**, alter or delete the existing setup password and press <Enter> or <Tab>.

   NOTE: If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.
5. Press <Esc> and a message prompts you to save the changes.
6. Press <Y> to save the changes and exit from the System Setup.
   The computer reboots.

4

Technical Specifications

NOTE: Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to **Help and Support** in your Windows operating system and select the option to view information about your computer.

System Information	
Chipset	Intel Bay Trail-M (Integrated with the processor)

Processor	
Type	• Intel Pentium • Intel Celeron

Video	
Video type	Integrated on system board
Data bus	Integrated video
Video controller:	
Intel Pentium Intel Celeron	Intel Integrated HD Graphics

Memory	
Memory connector	One SODIMM slot
Memory capacity	2 GB, 4 GB, and 8 GB
Memory type	1333 MHz DDR3L
Minimum memory	2 GB
Maximum memory	8 GB

Audio	
Type	Two-channel high definition audio
Controller	Realtek ALC3234–CG Controller
Stereo Conversion	24-bit (analog-to-digital and digital-to-analog)
Interface:	
Internal	High-definition audio
External	Microphone-in/stereo headphones combo connector

Audio	
Speakers	Two (2W per channel)
Internal speaker amplifier	Two (2W per channel)
Volume controls	Software program menus, media controls, and keyboard function keys

Communications	
Network adapter	10/100/1000 Mbps Ethernet LAN
Wireless	• Intel Dual Band Wireless- 7265 802.11AC Wi-Fi + BT 4.0 LE Wireless Card (2x2) • Intel Dual Band Wireless- 7265 802.11AGN Wi-Fi + BT 4.0 LE Wireless Card (2x2)

Ports and Connectors	
Audio	Audio In / Out one Combo Jack
Video	One 19–pin HDMI connector
Network adapter	One RJ-45 network adapter
USB	• One USB 2.0 compliant connectors • One USB 3.0 PowerShare connector
Memory card reader	SD 3.0 Memory-card reader

Camera	
Resolution	1280 x 720 pixels
Video Resolution (maximum)	1280 x 720 pixels
Diagonal viewing angle	74 °

Display	
Type	
Non-Touch	HD Anti-Glare
Size	11.60 inches
Active area (X/Y)	256.12 mm x 144.00 mm (10.08 inches x 5.67 inches)
Dimensions:	
Height	168.50 mm (6.63 inches)
Width	268.50 mm (10.57 inches)
Maximum resolution	1366 x 768 pixels at 262 K colors
Maximum Brightness	220 nits
Refresh rate	60 Hz
Operating Angle	0° (closed) to 187.5°
Minimum Viewing Angles:	

Display	
Horizontal	HD +40/- 40 degrees
Vertical	HD +10/-30 degrees
Pixel pitch	0.2148 mm x 0.2148 mm

Keyboard	
Number of keys	• United States and Canada: 82 keys • Europe and Brazil: 83 keys • Japan: 86 keys

Touchpad	
Active Area:	
X-axis	102.40 mm (4.03 inches)
Y-axis	57.40 mm (2.26 inches)

Battery	
Type	3-cell Li-polymer (3.43 AHr) (38 Whr)
Dimensions:	
Depth:	
3-cell	233.00 mm (9.17 inches)
Height:	
3-cell	7.05 mm (0.28 inch)
Width:	
3-cell	94.80 mm (3..73 inches)
Weight:	
3-cell	265.00 g (0.58 lb)
Voltage:	
3-cell	11.1 VDC
Approximate charge time of battery with computer off (ExpressCharge)	• 0~15 °C: 4 hours • 16~45 °C: 2 hours • 46~60 °C: 3 hours
Temperature range:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Non-operating	–40 °C to 65 °C (–40 °F to 149 °F)
Coin-cell battery	3 V CR2032 lithium ion

AC Adapter				
Type	**65W**	**65W HF-free**	**65W Non-HF free**	**90W (India only)**
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC	100 VAC to 240 VAC	100 to 240 VAC
Input current (maximum)	1.70 A	1.70 A	1.70 A	2.5 A
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Output current	3.34 A (continuous)	3.34 A (continuous)	3.34 A (continuous)	4.62 A (continuous)
Rated output voltage	19.50 VDC	19.50 VDC	19.50 VDC	19.5 VDC
Dimensions:				
Height	22.00 mm (0.87 inch)	28.00 mm (1.10 inches)	28.00 mm (1.10 inches)	32.00 mm (1.30 inches)
Width	66.00 mm (2.60 inches)	47.00 mm (1.90 inches)	47.00 mm (1.90 inches)	52.00 (2.00 inches)
Depth	106.00 mm (4.17 inches)	108.00 mm (4.30 inches)	108.00 mm (4.30 inches)	128.00 (5.00 inches)
Temperature range:				
Operating	0 °C to 40 °C (32 °F to 104 °F)			
Non Operating	–40 °C to 70 °C (–40 °F to 158 °F)			

Physical	
Height (with a WLED panel)	22.90 mm (0.90 inch)
Width	301.00 mm (11.85.0 inches)
Depth	212.00 mm (8.35 inches)
Weight (Minimum)	1.68 kg (3.70 lb)

Environmental	
Temperature range:	
Operating	5 °C to 60 °C (41 °F to 140 °F)
Storage	-40 °C to 65 °C (–40 °F to 149 °F)
Relative humidity (maximum):	
Operating	10 % to 90 % (non-condensing)
Storage	5 % to 95 % (non-condensing)
Altitude (maximum):	
Operating	–15.2 m to 3048 m (–50 to 10,000 ft) 0° C to 35°C
Non-Operating	-15.20 m to 10,668 m (-50 ft to 35,000 ft)

Environmental	
Maximum vibration:	
Operating	0.66 Grms (2 Hz - 600 Hz)
Storage	1.30 Grms (2 Hz - 600 Hz)
Maximum shock:	
Operating	110 G
Storage	160 G
Airborne contaminant level	G1 or lower as defined by ISA-S71.04–1985

5

Diagnostics

If you experience a problem with your computer, run the ePSA diagnostics before contacting Dell for technical assistance. The purpose of running diagnostics is to test your computer's hardware without requiring additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

Enhanced Pre-Boot System Assessment (ePSA) Diagnostics

The ePSA diagnostics (also known as system diagnostics) performs a complete check of your hardware. The ePSA is embedded with the BIOS and is launched by the BIOS internally. The embedded system diagnostics provides a set of options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

CAUTION: Use the system diagnostics to test only your computer. Using this program with other computers may cause invalid results or error messages.

NOTE: Some tests for specific devices require user interaction. Always ensure that you are present at the computer terminal when the diagnostic tests are performed.

You can launch the ePSA diagnostics by two ways:

1. Power-on the computer.
2. As the computer boots, press the <F12> key as the Dell logo appears.
3. On the boot menu screen, select the **Diagnostics** option.
   The **Enhanced Pre-boot System Assessment** window displays, listing all devices detected in the computer. The diagnostics starts running the tests on all the detected devices.
4. If you wish to run a diagnostic test on a specific device, press **<Esc>** and click **Yes** to stop the diagnostic test.
5. Select the device from the left pane and click **Run Tests**
6. If there are any issues, error codes are displayed.
   Note the error code and contact Dell.

OR

1. Shutdown the computer.
2. Press and hold the **<fn>** key, while pressing the power button, and then release both.
   The **Enhanced Pre-boot System Assessment** window displays, listing all devices detected in the computer. The diagnostics starts running the tests on all the detected devices.
3. On the boot menu screen, select the **Diagnostics** option.
   The **Enhanced Pre-boot System Assessment** window displays, listing all devices detected in the computer. The diagnostics starts running the tests on all the detected devices.
4. If you wish to run a diagnostic test on a specific device, press **<Esc>** and click **Yes** to stop the diagnostic test.
5. Select the device from the left pane and click **Run Tests**
6. If there are any issues, error codes are displayed.
   Note the error code and contact Dell.

Device Status Lights

Table 14. Device Status Lights

	Turns on when you turn on the computer and blinks when the computer is in a power management mode.
	Turns on when the computer reads or writes data.
	Turns on steadily or blinks to indicate battery charge status.
	Turns on when wireless networking is enabled.

The device status LEDs are usually located either on the top or left side of the keyboard. They display the storage, battery and wireless devices connectivity and activity. Apart from that they can be useful as a diagnostic tool when there's a possible failure to the system.

The following table lists how to read the LED codes when possible errors occur.

Table 15. LED Lights

Storage LED	Power LED	Wireless LED	Fault Description
Blinking	Solid	Solid	A possible processor failure has occurred.
Solid	Blinking	Solid	The memory modules are detected but encountered an error.
Blinking	Blinking	Blinking	A system board failure has occurred.
Blinking	Blinking	Solid	A possible graphics card/video failure has occurred.
Blinking	Blinking	Off	System failed on hard drive initialization OR System failed in Option ROM initialization.
Blinking	Off	Blinking	The USB controller encountered a problem during initialization.
Solid	Blinking	Blinking	No memory modules are installed/detected.

Storage LED	Power LED	Wireless LED	Fault Description
Blinking	Solid	Blinking	The display encountered a problem during initialization.
Off	Blinking	Blinking	The modem is preventing the system from completing POST
Off	Blinking	Off	Memory failed to initialize or memory is unsupported.

Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

Alternately blinking amber light and white light	An unauthenticated or unsupported non-Dell AC adapter is attached to your laptop.
Alternately blinking amber light with steady white light	Temporary battery failure with AC adapter present.
Constantly blinking amber light	Fatal battery failure with AC adapter present.
Light off	Battery in full charge mode with AC adapter present.
White light on	Battery in charge mode with AC adapter present.

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Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to **dell.com/support**.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.